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PATENT APPLICATION

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Naohito HANAI et al.

Group Art Unit: 2671

Application No.: 09/786,981

Examiner: L. T. McCartney

Filed: April 12, 2001

Docket No.: 108916

For: IMAGE GENERATING SYSTEM AND PROGRAM

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the June 15, 2004 Office Action, the period for response having been extended by the attached Petition for Extension of Time, reconsideration is respectfully requested based on the following Remarks.

Claims 1-4, 6-7, 9-15 and 17-23 are pending in this application.

The Office Action rejects claims 1-4, 6, 7, 10, 12-15, 17-19 and 21 under 35 U.S.C. §103(a) over U.S. Patent No. 6,054,992 to Gibson in view of U.S. Patent No. 6,512,516 Schill et al. (hereinafter "Schill") in view of JP 05-101161 to Oka. This rejection is respectfully traversed.

The Office Action admits that neither Gibson nor Schill disclose or suggest "wherein after the event has occurred, the state change propagation means determines at random whether a state of an elemental object is changed when a state of another elemental object, which has a predetermined relationship with the elemental object and belongs to the same

aggregate object as the elemental object, has change," as recited in independent claims 1, 3, 12, and 14. The Office Action relies on Oka to supply the missing subject matter.

However, Applicants submit that Oka also does not disclose "wherein after the event has occurred, the state change propagation means determines at random whether a state of an elemental object is changed."

Oka discloses on page 9, in paragraph [0030] on page 9 that a "minute amount of displacement is added to arrive at new position coordinate [xf] for the mass point." The minute amount of displacement may include "a random number selected in a given range" (see paragraph [0031], page 9). Therefore, the state of the elemental object may be changed by a random amount. However, Oka does not disclose that the state change propagation means determines at random whether a state of an elemental object is changed. In contrast, in Oka the random number is always included in the minute displacement. Accordingly, Oka, alone or in combination with Gibson or Schill, fails to teach or suggest the feature "wherein after the event has occurred, the state change propagation means determines at random whether a state of an elemental object is changed," as recited in each independent claim 1, 3, 12 and 14. Claims 2, and 9-11 depend from claim 1, claims 4 and 6-7 depend from claim 3, claim 13 depends from claim 12, and claims 15, 17-19 and 21 depend from claim 14. Therefore, these claims are patentable for at least the reasons set forth above with respect to claims 1, 3, 12 and 14 as well as for the additional features they recite. Accordingly, Applicants respectfully request the rejection of claims 1-4, 6-7, 10, 12-15, 17-19 and 21 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claim 23 under 35 U.S.C. §103(a) over Gibson and Schill. This rejection is respectfully traversed.

The Office Action cites column 1, lines 48-60 of Schill and column 3, lines 17-23 of Gibson as providing motivation to make the proposed combination. However, column 1,

lines 48-60 disclose only that "In surgical simulation, for example, 3D ChainMail can be used for tissue modeling ... the 3D ChainMail algorithm is enhanced based on a physical model of how information is propagated through the body by passing it from one element to another."

The only suggestion made in this passage is for combining the state change propagation means with the 3D ChainMail algorithm. As disclosed in the preceeding lines 32-36 of column 1, the 3D ChainMail algorithm establishes links between sampled data elements, such that an element is moved only if it needs to be, and not moved if the element is unaffected by the movement of the selected element. There is no teaching or suggestions to combine the state change propagation means of Schill with the interaction model of Gibson, which models the cutting, tearing and joining operations of objects with links which can be created or destroyed according to the paths traversed by a simulated cutting or joining tool.

Similarly, in column 3, lines 17-23, Gibson discloses only that "techniques the [sic] manipulate the object representation, so that procedures such as object cutting, tearing and joining can be modeled. Simulation of these actions is important for physically realistic modeling, and has application in such fields as surgical simulation..." There is no teaching or suggestion that combining the cutting, tearing and joining procedures with the state change propagation means of Schill, would provide any advantageous result.

Therefore, the Office Action has failed to establish a proper motivation for making the proposed combination. Accordingly, Applicants respectfully request that the rejection of claim 23 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claims 11 and 22 under 35 U.S.C. §103(a) over Gibson in view of Schill and further in view of Oka and Mazarak et al. (hereinafter "Mazarak"). This rejection is respectfully traversed.

Applicants submit that Mazarak does not remedy the deficiency of Oka with respect to claim 1 or claim 12. Claim 11 depends from claim 1, and claim 22 depends from claim 12,

therefore, claims 11 and 22 are patentable for the reasons set forth above with respect to claims 1 and 12, as well as for the additional features they recite. Applicants respectfully request that the rejection of claims 11 and 22 under 35 U.S.C. §103(a) be withdrawn.

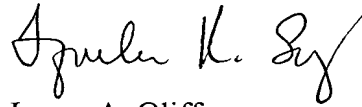
The Office Action rejects claims 9 and 20 under 35 U.S.C. §103(a) over Gibson in view of Schill and further in view of Oka and U.S. Patent No. 5,261,041 to Susman. This rejection is respectfully traversed.

Applicants submit that Susman does not remedy the deficiency of Oka with respect to claims 1 and 12. Claim 9 depends from claim 1 and claim 20 depends from claim 12. Accordingly, claims 9 and 20 are patentable for at least the reasons set forth above with respect to claims 1 and 12, as well as for any additional features they recite. Applicants respectfully request the rejection of claims 9 and 20 under 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-4, 6-7, 9-15 and 17-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:JKS/tbh

Attachment:
Petition for Extension of Time

Date: November 15, 2004

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